

CLAIMS

1. A portable information processor that is detachably attachable to a plurality of devices including a power source, and that is portable when detached from the device,
5 comprising:
 - a storage unit that stores information;
 - a connecting unit that connects any one of the devices from among the device;
 - an information acquiring unit that acquires
10 information from the device connected by the connecting unit;
 - an operation information generating unit supplied with a driving power from the power source of the connected device when connected to the connecting unit,
15 and generating the operation information relating to a predetermined operation executable by the connected device based on device identification information acquired by the information acquiring unit and the acquired information as well as the stored information stored in the storage unit,
20 and
 - a control unit that controls the connected device based on the operation information generated by the operation information generating unit.

- 25 2. The portable information processor according to claim 1, wherein the devices are a first device and a second

device, wherein

when connected to the first device,

the information acquiring unit acquires first device identification information and first acquired 5 information, and

the storage unit stores the first acquired information acquired by the information acquiring unit,

when connected to the second device,

the information acquiring unit acquires the 10 second device identification information and second acquired information,

the operation information generating unit generates second operation information relating to second device operation executable by the second device based on 15 the second identification information acquired by the acquiring unit and the second acquired information as well as the first acquired information and the stored information stored in the storage unit, and

the control unit controls the second device 20 based on the second operation information.

3. The portable information processor according to claim 1, wherein the devices are a first device and a second device, wherein

25 when connected to the first device,

the information acquiring unit acquires first

device identification information and first acquired information,

the operation information generating unit generates first operation information relating to first 5 device operation executable by the first device based on the first device identification information acquired by the acquired information and the first acquired information as well as the stored information stored in the storage unit, and

10 the storage unit stores the first operation information generated by the operation information generating unit,

when connected to the second device,

the information acquiring unit acquires the 15 second device identification information and the second acquired information,

the operation information generating unit generates second operation information relating to the second device operation executable by the second device 20 based on the second device identification information acquired by the acquired information and the second acquired information as well as the first operation information stored in the storage unit, and

the control unit controls the second device 25 based on the second operation information.

4. The portable information processor according to any of claims 1 to 3, wherein the devices are the mobile device installed in a mobile body and an indoor device installed in indoors, wherein

5 the mobile device includes a mobile position detection unit that detects the present position of the mobile body and a mobile display unit,

the indoor device includes an input unit that inputs command information by a user and communication unit that 10 performs the inputting and outputting of information or communications with information source,

the storage unit stores at least map information, when connected to the mobile device,

the information acquiring unit acquires mobile 15 device identification information from the mobile device, and at the same time, acquires mobile position detection information from the mobile position detection unit,

the operation information generating unit generates mobile navigation information based on the map 20 information, the mobile device identification information as well as the mobile position detection information, and

the control unit allows a mobile navigation screen to be displayed in the mobile display unit based on the mobile navigation information,

25 wherein, when connected to the indoor device,

the information acquiring unit acquires indoor

device identification information from the indoor device and the command information from the input unit,

the operation information generating unit generates request information that requests predetermined 5 information relating to the mobile navigation based on the indoor device identification information and the command information, and

the control unit allows the communication unit to acquire the predetermined information from the 10 information source based on the request information.

5. The portable information processor according to claim 4, wherein when connected to the indoor device,

the information acquiring unit acquires the 15 predetermined information, and

the storage unit performs a renewal of information stored in the storage unit based on the predetermined information.

20 6. The portable information processor according to claim 4, wherein

the indoor device further includes an indoor display unit,

when connected to the indoor device,

25 the operation information generating unit generates presentation information that presents the

content of the information stored in the storage unit, and the control unit allows the indoor display unit to display an information presentation screen based on the presentation information.

5

7. The portable information processor according to claim 4, wherein when connected to the indoor device,

the information acquiring unit acquires map renewal command information from the input unit,

10 the operation information generating unit generates the request information that requests the map renewal information based on the map renewal command information, and

the control unit allows the communication unit to 15 acquire the map renewal information from the information source based on the request information.

8. The portable information processor according to claim 7, wherein

20 when connected to the indoor device, the information acquiring unit acquires the map renewal information, and the storage unit performs a renewal of the map information based on the map renewal information, and

when connected to the mobile device, the operation 25 information generating unit generates the navigation information based on the renewed map information.

9. The portable information processor according to claim 4, wherein when connected to the indoor device, the information acquiring unit acquires route setting command information from the input unit, the operation information generating unit generates request information that requests route information relating to route setting based on the route setting command information, and
10. the control unit allows the communication unit to acquire the route information based on the request information.

10. The portable information processor according to claim 9, wherein when connected to the indoor device, the information acquiring unit acquires the route information, the operation information generating unit generates route guidance information to allow the mobile device to perform route guidance to the destination based on the route information and the map information, and the storage unit stores the route guidance information, and
20. when connected to the mobile device, the operation information generating unit generates the navigation information based on the route guidance information.

11. The portable information processor according to any one of claims 1 to 3, wherein

the devices include the portable device portable by the user and the indoor device installed in the indoors, 5 wherein the portable device includes a portable-device-position detection unit that detects the present position of the portable device and portable display unit,

the indoor device comprises the input unit that inputs the command information by the user and 10 communication unit that performs the inputting and outputting of the information with the information source,

the storage unit stores at least the map information, when connected to the portable device,

the information acquiring unit acquires portable 15 device identification information from the portable device and portable device position detection information from the portable device position detection unit,

the operation information generating unit generates portable navigation information based on the map 20 information, the portable device identification information, and the portable device position detection information, and

the control unit allows the portable display unit to display the portable navigation screen based on 25 the portable navigation information,

when connected to the indoor device,

the information acquiring unit acquires the indoor device identification information from the indoor device and the command information from the input unit,

the operation information generating unit
5 generates the request information that requests the predetermined information relating to the portable navigation information based on the indoor device identification information and the command information, and

10 the control unit allows the communication unit to acquire the predetermined information from the information source based on the request information.

12. The portable information processor according to any
15 one of claims 1 to 3, wherein

the devices include the mobile device installed in the mobile body and the portable device portable by the user,

the mobile device includes the mobile position
20 detection unit that detects the mobile present position and the portable display unit,

the portable device includes the portable device position detection unit and the portable display unit,

the storage unit stores at least the map information,
25 when connected to the mobile device,

the information acquiring unit acquires the

mobile device identification information from the mobile device and the mobile position detection information from the mobile position detection unit,

the operation information generating unit

5 generates the mobile navigation information based on the map information, the mobile device identification information, and the mobile position detection information, and

the control unit allows the portable display unit to display the portable navigation screen based on 10 the portable navigation information,

when connected to the portable device,

the information acquiring unit acquires portable device identification information from the portable device 15 and portable device position detection information from the portable device position detection unit,

the operation information generating unit generates the portable navigation information based on the map information, the portable device identification 20 information, and the portable device position detection information, and

the control unit allows the portable display unit to display the portable navigation information based on the portable navigation information.

12, wherein

the devices further include the indoor device
installed in indoors,

the indoor device includes the input unit that inputs
5 the command information by the user,

when connected to the indoor device,

the information acquiring unit acquires the
indoor device identification information from the indoor
device and the route setting command information from the
10 input unit,

the operation information generating unit
generates mobile route guidance information for allowing
the mobile device to perform a route guidance and portable
route guidance information that allows the portable device
15 to perform a portable route guidance based on the map
information, the indoor device identification information,
and the route setting command information, and

the storage unit stores the mobile route
guidance information and portable route guidance
20 information,

when connected to the mobile device, the operation
information generating unit generates the mobile
navigation information based on the map information, the
mobile identification information, the mobile position
25 detection unit, and the mobile route guidance information,

when connected to the portable device, the operation

information generating unit generates the portable navigation information based on the map information, the portable device identification information, the portable device position detection information, and the portable 5 route guidance information.

14. The portable information processor according to any one of claims 1 to 3, wherein

the devices include the mobile device installed in 10 the mobile body and the indoor device installed in indoors, the mobile device includes mobile sound output unit, the indoor device includes an indoor sound output unit,

the storage unit stores sound information, mobile 15 reproduction environment information showing reproduction environment of the mobile device and indoor reproduction environment information showing reproduction environment of the indoor device,

when connected to the mobile device,

20 the information acquiring unit acquires the mobile device identification information from the mobile device,

the operation information generating unit generates mobile audio information based on the sound 25 information, the mobile reproduction environment information and the mobile device identification

information, and

the control unit allows the mobile sound output unit to output the sound based on the mobile audio information,

5 when connected to the indoor device,

the information acquiring unit acquires the indoor device identification information from the indoor device,

10 the operation generating unit generates indoor audio information based on the sound information, the indoor reproduction environment information, and the mobile device identification information, and

15 the control unit allows the indoor sound output unit to output the sound based on the indoor audio information.

15. The portable information processor according to claim 14, wherein

20 the indoor device further includes an input unit that inputs the command information by the user,

when connected to the indoor device,

the information acquiring unit acquires reproduction environment renewal command information from the input unit,

25 the operation information generating unit generates reproduction environment renewal information

that renews the mobile reproduction environment information or the indoor reproduction environment information based on the reproduction environment renewal command information, and

5 the storage unit performs renewal of the mobile reproduction environment information or the indoor reproduction environment based on the reproduction environment renewal information.

10 16. The portable information processor according to claim 14, wherein

the indoor device further includes the input unit that inputs the command information by the user and the communication unit that performs the inputting and 15 outputting of the information with the information source,

when connected to the indoor device,

the information acquiring unit acquires sound renewal command information from the input unit,

20 the operation information generating unit generates the request information that requests sound renewal information based on the sound renewal command information, and

the control unit allows the communication unit to acquire the sound renewal information based on the 25 request information.

17. The portable information processor according to claim
16, wherein

when connected to the indoor device,

the information acquiring unit acquires the

5 sound renewal information, and

the storage unit performs the renewal of the
sound information based on the sound renewal information,
and

when connected to the mobile device, the operation
10 information generating unit generates the mobile audio
information based on the renewed sound information.

18. The portable information processor according to any
one of claims 1 to 3, wherein

15 the devices include the portable device portably
carried by a user and the indoor device installed indoors,
the portable device includes a portable sound output
unit,

20 the indoor device includes an indoor sound output
unit,

the storage unit stores sound information, portable
reproduction environment information showing reproduction
environment of the portable device and indoor reproduction
environment information showing reproduction environment
25 of the indoor device,

when connected to the portable device,

the information acquiring unit acquires the portable device identification information from the portable device,

the operation information generating unit 5 generates portable audio information based on the sound information, the portable reproduction environment information and the portable device identification information, and

the control unit allows the portable sound 10 output unit to output the sound based on the portable audio information,

when connected to the indoor device,
the information acquiring unit acquires the indoor device identification information from the indoor 15 device,

the operation generating unit generates indoor audio information based on the sound information, the indoor reproduction environment information, and the mobile device identification information, and

the control unit allows the indoor sound output 20 unit to output the sound based on the indoor audio information.

19. The portable information processor according to any 25 one of claims 1 to 3, wherein

the devices include the mobile device installed in

the mobile body and the portable device portably carried by a user,

the mobile device includes mobile sound output unit,

the portable device includes an portable sound output 5 unit,

the storage unit stores sound information, mobile reproduction environment information showing reproduction environment of the mobile device and portable reproduction environment information showing reproduction environment 10 of the portable device,

when connected to the mobile device,

the information acquiring unit acquires the mobile device identification information from the mobile device,

15 the operation information generating unit generates mobile audio information based on the sound information, the mobile reproduction environment information and the mobile device identification information, and

20 the control unit allows the mobile sound output unit to output the sound based on the mobile audio information,

when connected to the portable device,

the information acquiring unit acquires the 25 portable device identification information from the portable device,

the operation generating unit generates portable audio information based on the sound information, the portable reproduction environment information, and the mobile device identification information, and

5 the control unit allows the portable sound output unit to output the sound based on the portable audio information.

20. The portable information processor according to claim
10 19, wherein

the indoor device further includes a display unit, when the portable information processor is connected to the indoor device,

15 the generating unit generates presentation information to present a content of the information stored in the storage unit, and

the control unit causes the display unit of the indoor device to display a screen based on the presentation information.

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21. The portable information processor according to claim 19, wherein when the portable information processor is connected to the indoor device,

25 the acquiring unit acquires map renewal command from the input unit,

the generating unit generates the request information

to request map renewal information based on the map renewal command, and

the control unit causes the communication unit to acquire the map renewal information from the information 5 source based on the request information.

22. The portable information processor according to any of claims 1 to 3, wherein

the devices include the mobile device installed in a 10 mobile unit and the indoor device installed in indoors,

the mobile device includes a mobile sound output unit,

the indoor device includes the input unit that inputs the command information by the user and the communication unit that performs the inputting and outputting of the 15 information or communications with the information source,

the storage unit stores at least sound information,

when connected to the mobile device,

the information acquiring unit acquires mobile device identification information from the mobile device,

20 the operation information generating unit

generates mobile audio information based on the sound

information and the mobile device identification

information, and

the control unit allows the mobile sound output 25 unit to output the sound based on the mobile audio information,

when connected to the indoor device,
the information acquiring unit acquires the
indoor device identification information from the indoor
device and the command information from the input unit,
5 the operation information generating unit
generates the predetermined request information relating
to the mobile audio information based on the indoor device
identification information and the command information,
and
10 the control unit allows the communication unit
to acquire the predetermined information from the
information source based on the request information.

23. The portable information processor according to claim
15 22, wherein
when connected to the indoor device,
the information acquiring unit acquires a sound
information editing command from the input unit,
the operation information generating unit
20 generates editing information based on the sound
information editing command, and
the storage unit performs the editing of the
sound information based on the editing information, and
when connected the mobile device, the operation
25 information generating unit generates the mobile audio
information based on the edited sound information.

24. The portable information processor according to any of claims 1 to 3, wherein

the devices include the portable device portable by 5 the user and the indoor device installed in indoors,

the portable device includes a portable sound output unit,

the indoor device includes the input unit that inputs the command information by the user and the communication 10 unit that performs the inputting and outputting of the information or communications with the information source,

the storage unit stores at least content information showing the sound information and the content of the sound information,

15 when connected to the portable device,

the information acquiring unit acquires portable device identification information from the portable device,

the operation information generating unit generates portable audio information based on the sound 20 information and the portable device identification information, and

the control unit allows the portable sound output unit to output the sound based on the portable audio information,

25 when connected to the indoor device,

the information acquiring unit acquires the

indoor device identification information from the indoor device and the command information from the input unit,

the operation information generating unit

generates the predetermined request information relating

5 to the mobile audio information based on the indoor device identification information and the command information,
and

the control unit allows the communication unit to acquire the predetermined information from the

10 information source based on the request information.